

Chapter 1

Ron Holmes/USFWS



A bald eagle soars over the refuge with a fish.

The Purpose of, and Need for, Action

- 1.1 Introduction to John Heinz National Wildlife Refuge
- 1.2 Purpose of, and Need for, the Proposed Action
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1.1 Introduction to John Heinz National Wildlife Refuge

John Heinz National Wildlife Refuge at Tinicum (NWR, refuge) currently includes 993 acres of the 1,200 acres within its approved acquisition boundary. The refuge protects over 200 acres of the last remaining freshwater tidal marsh in Pennsylvania. It is an important migratory stopover along the Atlantic Flyway, and provides protected breeding habitat for State-listed threatened and endangered species, as well as many neotropical migratory birds (Cohen 2004). The refuge is located in Philadelphia and Delaware Counties in the Commonwealth of Pennsylvania (map 1.1)

John Heinz NWR includes a variety of important resources and also provides a unique opportunity for education and outreach near the urban center of the city of Philadelphia, the nation's fifth largest metropolitan area (U.S. Census Bureau 2011). Sustaining and protecting these resources requires planning, active on-the-ground management, and partnerships with the surrounding communities of the Delaware Valley.

John Heinz NWR is managed by the United States Fish and Wildlife Service (USFWS, the Service, our, we) as part of the National Wildlife Refuge System (Refuge System). The Refuge System maintains the biological integrity, diversity, and environmental health of natural resources on lands within it for the benefit of present and future generations.

We prepared this Comprehensive Conservation Plan (CCP) for the refuge as required by the National Wildlife Refuge System Administration Act of 1996, as amended by the National Wildlife Refuge System Improvement Act of 1997 (P.L. 105-57; 111 Stat. 1253) (Refuge Improvement Act). An environmental assessment (EA), required by the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4321 *et seq.*, 83 Stat. 852) was prepared concurrent with the draft CCP. The decision to adopt this plan and its "Finding of No Significant Impact" are included as appendix L.

This document presents the combination of management goals, objectives, and strategies that will guide the management decisions and actions of John Heinz NWR over the next 15 years. It also helps Pennsylvania natural resource agencies, our conservation partners, local communities, and the public understand our priorities and work with us to achieve common goals.

This CCP is organized in six chapters to outline the history, driving mandates, purposes, and conservation priorities guiding the management direction, as well as the existing environment of the refuge.

Chapter 1, "The Purpose of, and Need for, Action," explains the purpose of, and need for, preparing a CCP and EA, and introduces the five subsequent chapters and twelve appendixes.

Chapter 2, "The Planning Process," describes our planning process, including public and partner involvement, its compliance with NEPA regulations, and identifies public issues or concerns that surfaced during plan development.

Chapter 3, "Existing Environment," describes the biological and socioeconomic landscape context as well as the physical, biological, and human environments of the refuge.

Chapter 4, "Management Direction and Implementation," presents the actions, goals, objectives, and strategies that will guide our decision-making and land management for the refuge. It also outlines the staffing and funding needed to accomplish that management.

1.2 Purpose of, and Need for, the Proposed Action

Chapter 5, “Consultation and Coordination with Others,” summarizes how the Service involved the public and our partners in the planning process. Their involvement is vital for the future management of this refuge and all national wildlife refuges.

Chapter 6, “List of Preparers,” credits Service and non-Service contributors to the planning effort.

Eleven appendixes, a glossary with acronyms, and a bibliography section provide additional documentation and references to support our analysis summarized within the report.

In 1997, Congress passed the Refuge Improvement Act establishing a unifying mission for the Refuge System. The Refuge Improvement Act highlights six priority public uses that each refuge should evaluate for compatibility with its “wildlife-first” mandate. These six public uses include wildlife observation, interpretation, photography, environmental education, hunting, and fishing. The Refuge Improvement Act also requires that all refuges established prior to 1997 prepare a CCP by 2012.

The Service proposes to develop a CCP for the refuge that, in the Service’s best professional judgment, best achieves the purposes, vision, and goals of the refuge; contributes to the mission of the Refuge System; adheres to Service policies and other mandates; addresses identified issues of significance; and incorporates sound principles of fish and wildlife science.

The purpose of adopting a CCP for this refuge is to accomplish the following goals:

- Goal 1.** Protect, maintain, and restore, where possible, the biological integrity, diversity, and environmental health of southeastern Pennsylvania coastal plain ecological communities that are unique to the refuge and sustain native plants and wildlife, including species of conservation concern.
- Goal 2.** Contribute to the enhancement of native species diversity in the Delaware Estuary, including migratory birds and other species of conservation concern, within the refuge’s managed open waters and grasslands.
- Goal 3.** Provide a wide range of environmental educational opportunities, focusing on urban youth, which raise awareness and understanding of the Service and the National Wildlife Refuge System, inspire appreciation and stewardship of our natural and cultural resources, and expand understanding of Tinicum Marsh as a unique component of the Delaware Estuary and the local community.
- Goal 4.** Ensure that visitors, students, and local residents of all ages and abilities enjoy their refuge experience, understand and appreciate the refuge’s natural and cultural resources and its contribution to conserving those resources in the Delaware Estuary, and are inspired to become better stewards in their everyday lives.
- Goal 5.** Provide quality, wildlife-dependent recreation that allows a diversity of visitors to connect with nature in the outdoors.
- Goal 6.** Communicate and collaborate with local communities, Federal and State agencies, Tribal governments, academic institutions, and conservation organizations throughout the Delaware Estuary to promote natural and cultural resource conservation and the mission of the National Wildlife Refuge System.

Several Service policies providing specific guidance on implementing the Refuge Improvement Act have been developed since the refuge was established. A CCP incorporates those policies, and develops strategic management direction for the refuge for 15 years that:

- States clearly the desired future conditions for refuge habitat, wildlife, visitor services, staffing, and facilities.
- Explains concisely to state agencies, refuge neighbors, visitors, partners, and other stakeholders the reasons for management actions.
- Ensures that refuge management conforms to the policies and goals of the Refuge System and legal mandates.
- Ensures that present and future public uses are appropriate and compatible.
- Provides long-term continuity and consistency in management direction.
- Justifies budget requests for staffing, operating, and maintenance funds.

In addition to the needs for a CCP outlined by Service policies and mandates, John Heinz NWR has not completed a large-scale planning effort since development of its original master plan in 1980. The refuge, its use, and the surrounding landscapes have changed significantly since that time. Additional property has been acquired, biological management has shifted from a preservation-based approach to adaptive management focus, and improvements have been made to promote refuge visitation and recreational use. Conservation science has also improved over the past 30 years, including identification of priority species for conservation in light of population trends, available habitat, and landscape-level biological threats. All these changes since the refuge master plan was developed were considered in development of this CCP.

Project Area

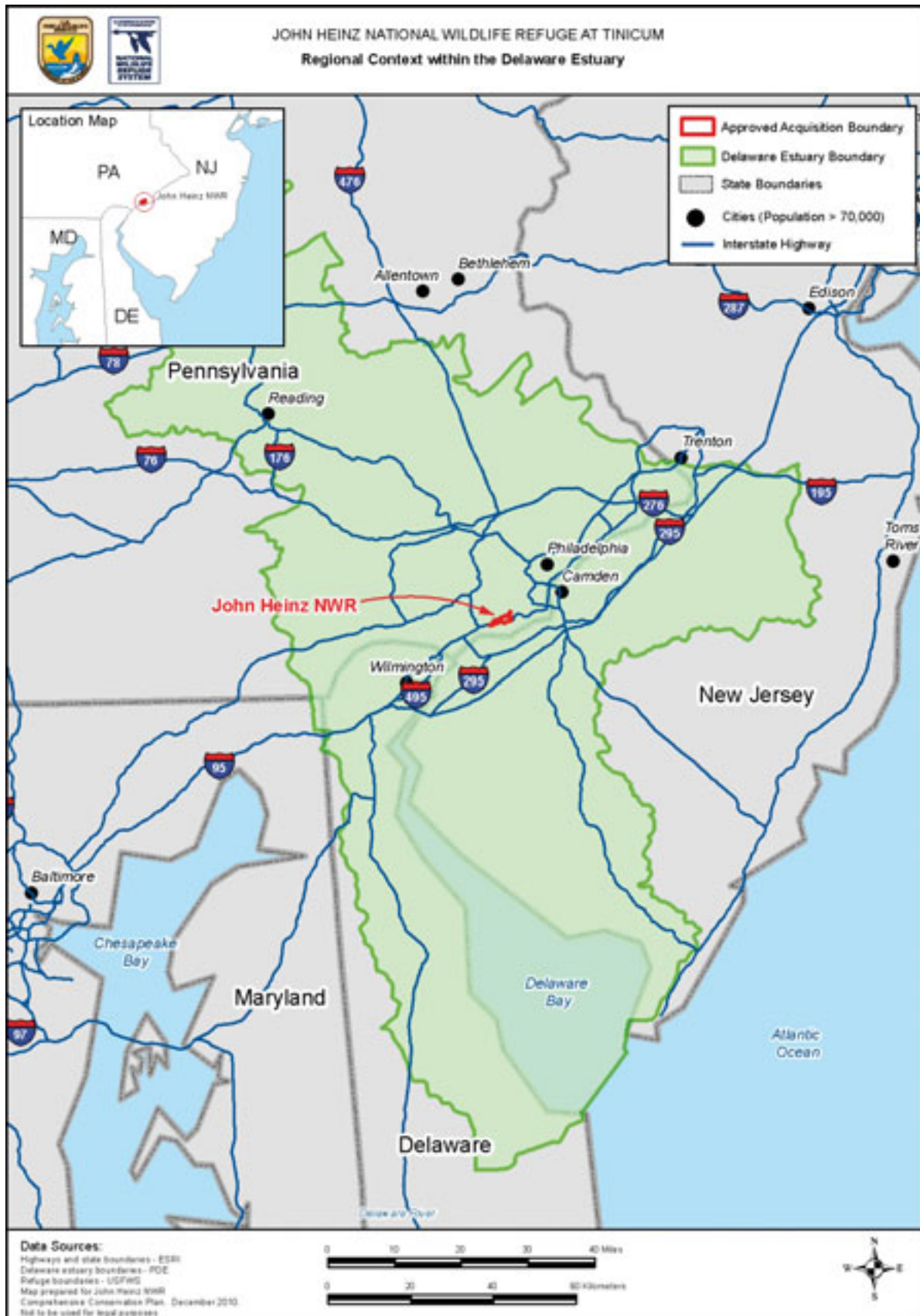
The project location is John Heinz NWR, which is located in Philadelphia and Delaware Counties in the State of Pennsylvania. Darby Creek flows through the site shortly before its confluence with the Delaware River. The regional context of the project area is defined by the interactions of the surrounding Philadelphia metropolitan area, the Delaware Estuary, and the Darby Creek watershed (see maps 1.1 through 1.3). The refuge lies within the Atlantic Coastal Plain physiographic province. This area is located in the most southeastern part of the State, running approximately 40 miles in length and 4 miles in width. Local relief is very low in this section and elevations range from sea level to 200 feet above sea level (PADCNr 2010a).



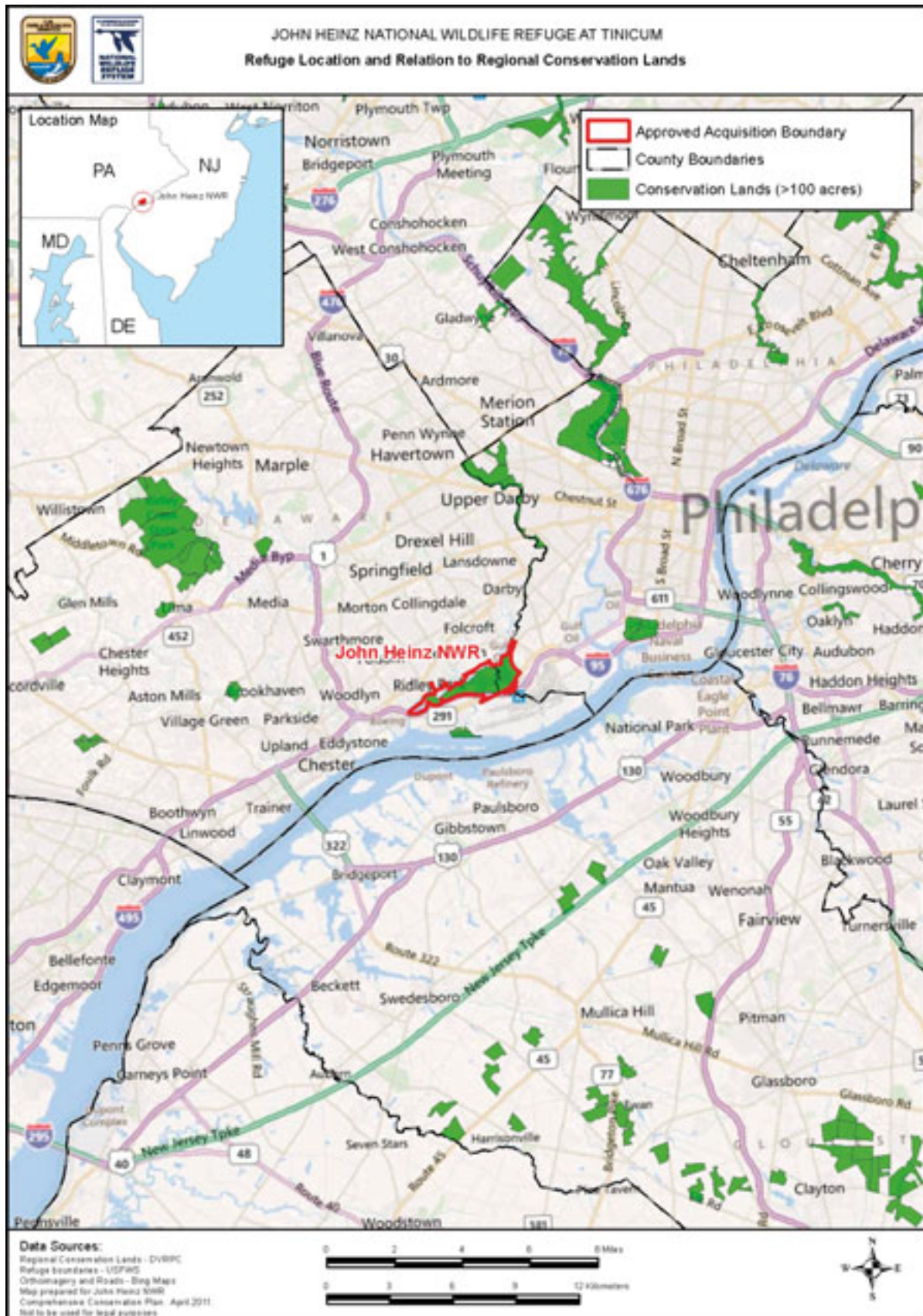
Mourning doves in Tinicum marsh

Larry Woodward/USFWS

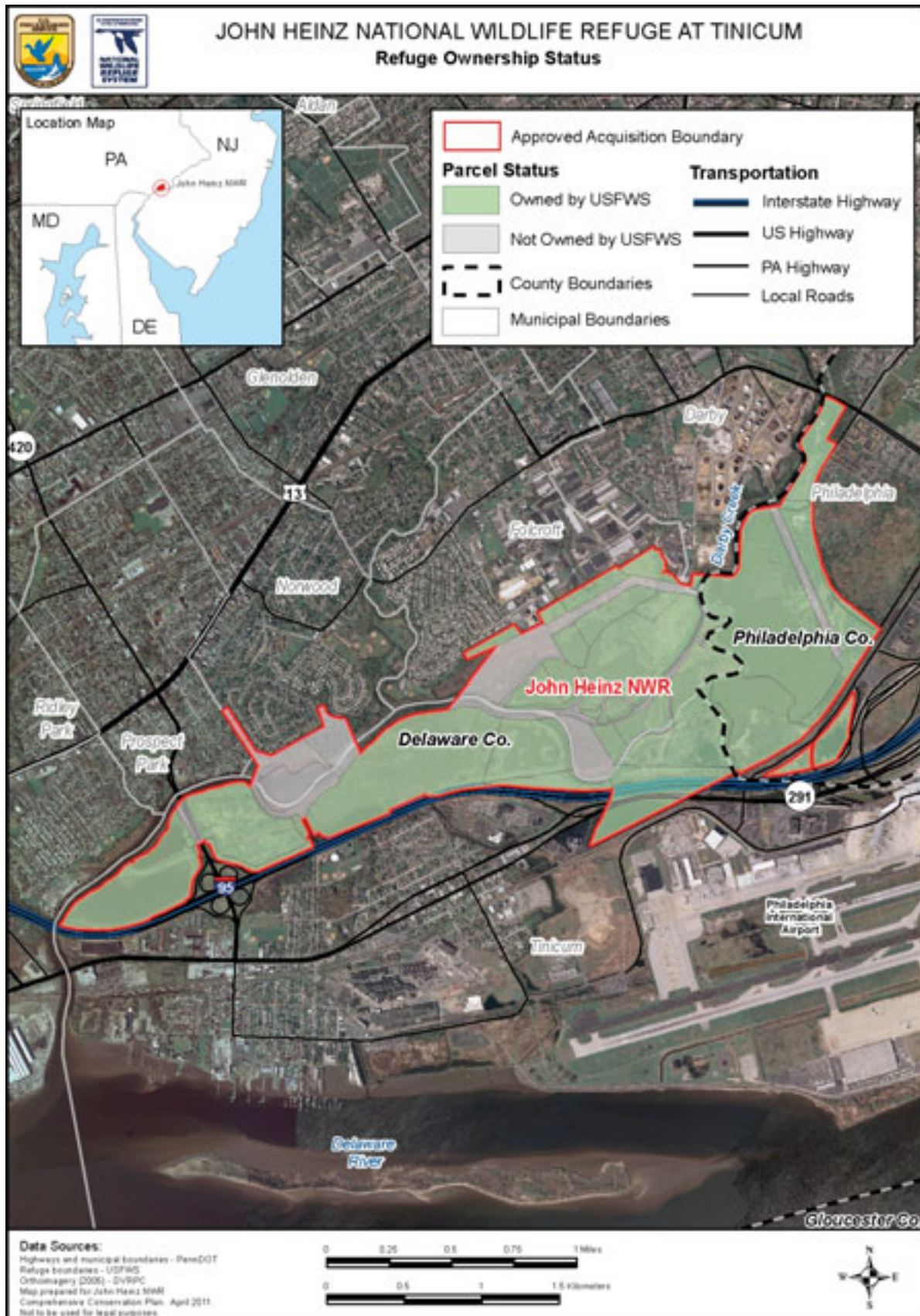
Map 1.1. John Heinz NWR and Regional Context within the Delaware Estuary



Map 1.2. John Heinz NWR Location and Relation to Regional Conservation Lands



Map 1.3. John Heinz NWR Ownership Status



1.3 Service and Refuge System: Policies and Mandates Guiding Planning

The United States Fish and Wildlife Service and its Mission

As part of the Department of the Interior, the Service administers the Refuge System. The Service mission is, “Working with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.”

Congress entrusts to the Service the conservation and protection of the following national natural resources:

- Migratory birds and fish
- Federally listed, endangered or threatened species
- Interjurisdictional fish
- Wetlands
- Certain marine mammals
- National wildlife refuges

The Service also enforces Federal wildlife laws and international treaties on importing and exporting wildlife, assists states with their fish and wildlife programs, and helps other countries develop conservation programs.

The Service Manual (USFWS 2010) contains the standing and continuing directives on implementing our authorities, responsibilities, and activities. The Service publishes special directives that affect the rights of citizens or the authorities of other agencies separately in the Code of Federal Regulations (CFR); the Service Manual does not duplicate them (see 50 CFR 1–99 at: <http://www.gpoaccess.gov/cfr/index.html>; accessed January 2012).

The National Wildlife Refuge System and its Mission and Policies

The Refuge System is the world’s largest network of lands and waters set aside specifically for the conservation of wildlife and the protection of ecosystems. More than 550 national wildlife refuges encompass more than 150 million acres of lands and waters in all 50 states and several island territories. Each year, more than 40 million visitors hunt, fish, observe and photograph wildlife, or participate in environmental education and interpretation on refuges (Carver and Caudell 2007).

In 1997, President Clinton signed into law the National Wildlife Refuge System Improvement Act (Public Law 105-57; 111 Stat. 1253) amending the Refuge Administration Act (see Introduction of this chapter). The Refuge Improvement Act establishes the following unifying mission for the Refuge System:

“The mission of the System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans” (Refuge Improvement Act; Public Law 105–57).

It also establishes a new process for determining compatibility of public uses on refuges, and requires the Service to prepare a CCP for each refuge. The Refuge Improvement Act states that the Refuge System must focus on wildlife conservation and that the mission of the Refuge System, coupled with the purpose(s) for which each refuge was established, will provide the principal management direction on that refuge.

The Refuge Manual contains policy governing the operation and management of the Refuge System that the Service Manual does not cover, including technical information on implementing refuge policies and guidelines on enforcing laws. The Service is in the process of updating and transferring the policies and

guidance in the Refuge Manual into the Service Manual. While many of these policies are in the Service Manual, some have not been transferred yet and are still recorded in the Refuge Manual (USFWS 1989). The Refuge Manual is not available online, but can be viewed at refuge headquarters. Following are a few noteworthy policies instrumental in developing this CCP.

Policy on the National Wildlife Refuge System Mission, Goals, and Purposes

This policy (601 FW 1) sets forth the Refuge System mission noted above, how it relates to the Service mission, and explains the relationship of the Refuge System mission and goals, and the purpose(s) of each unit in the Refuge System. In addition, it identifies the following Refuge System goals:

- Conserve a diversity of fish, wildlife, and plants.
- Develop and maintain a network of habitats.
- Conserve those ecosystems, plant communities, and wetlands that are unique within the United States (U.S.).
- Provide and enhance opportunities to participate in compatible, wildlife-dependent recreation.
- Help to foster public understanding and appreciation of the diversity of fish, wildlife, and plants and their habitats.

This policy also establishes the following management priorities for the Refuge System:

- Conserve fish, wildlife, and plants and their habitats.
- Facilitate compatible wildlife-dependent recreational uses.
- Consider other appropriate and compatible uses.

Policy on Refuge System Planning

This policy (602 FW 1, 2, 3) establishes the requirements and guidance for Refuge System planning, including CCPs and step-down management plans. It states that the Service will manage all refuges in accordance with an approved CCP that, when implemented, will help:

- Achieve refuge purposes.
- Fulfill the Refuge System mission.
- Maintain and, where appropriate, restore the ecological integrity of each refuge and the Refuge System.
- Achieve the goals of the National Wilderness Preservation System and the National Wild and Scenic Rivers System.
- Conform to other applicable laws, mandates, and policies.

This planning policy provides step-by-step directions and identifies the minimum requirements for developing all CCPs.

Policy on the Appropriateness of Refuge Uses

Federal law and Service policy provide the direction and planning framework for protecting the Refuge System from inappropriate, incompatible or harmful human activities and ensuring that visitors can enjoy its lands and waters. This policy (603 FW 1) provides a national framework for determining appropriate refuge uses to prevent or eliminate those that should not occur in the Refuge System. It describes the initial decision process the refuge manager follows when

first considering whether to allow a proposed use on a refuge. An appropriate use must meet at least one of the following four conditions:

- (1) The use is a wildlife-dependent recreational use as identified in the Refuge Improvement Act.
- (2) The use contributes to fulfilling the refuge purpose(s), the Refuge System mission, or goals or objectives described in a refuge management plan approved after October 9, 1997, the date the Refuge Improvement Act became law.
- (3) The use follows State regulations for the take of fish and wildlife.
- (4) The use has been found to be appropriate after concluding a specified findings process using 10 criteria.

We include the findings of appropriateness for John Heinz NWR in appendix B to this CCP.

Policy on Compatibility

This policy (603 FW 2) defines a compatible use as a use “that will not materially interfere with or detract from the fulfillment of the mission of the Refuge System or the purposes of the refuge.” The compatibility policy complements the appropriateness policy. Once a refuge manager finds a use appropriate, they conduct a further evaluation through a compatibility determination assessment. We include the compatibility determinations completed for those public uses determined to be appropriate for John Heinz NWR as appendix B to this CCP.

The policy provides guidelines for determining compatibility of uses and procedures for documentation and periodic review of existing uses. Highlights of this guidance follows:

- The Refuge Improvement Act and its regulations require an affirmative finding by the refuge manager on the compatibility of a public use before the Service allows it on a refuge.
- The refuge manager may authorize those priority uses on a refuge when they are compatible and consistent with public safety.
- There are six wildlife-dependent recreational uses that are to receive enhanced consideration on refuges: hunting, fishing, wildlife observation and photography, environmental education and interpretation.
- When the refuge manager publishes a compatibility determination, it will stipulate the required maximum reevaluation dates: 15 years for wildlife-dependent recreational uses and 10 years for other uses. However, the refuge manager may reevaluate the compatibility of a use at any time; for example, sooner than its mandatory date if new information reveals unacceptable impacts or incompatibility with refuge purposes (603 FW 2.11, 2.12).
- The refuge manager may allow or deny any use, even one that is compatible, based on other considerations such as public safety, policy, or available funding.

Policy on Wildlife-dependent Public Uses

This policy (605 FW 1) presents specific guidance on implementing management of the priority public uses. This policy defines a quality, wildlife-dependent recreational program as one that:

- (1) Promotes safety of participants, other visitors, and facilities.
- (2) Promotes compliance with applicable laws and regulations and responsible behavior.

- (3) Minimizes or eliminates conflict with fish and wildlife population or habitat goals or objectives in an approved plan.
- (4) Minimizes or eliminates conflicts with other compatible, wildlife-dependent recreational uses.
- (5) Minimizes conflicts with neighboring landowners.
- (6) Promotes accessibility and availability to a broad spectrum of the American people.
- (7) Promotes resource stewardship and conservation.
- (8) Promotes public understanding and increases public appreciation of America's natural resources and our role in managing and conserving these resources.
- (9) Provides reliable and reasonable opportunities to experience wildlife.
- (10) Uses facilities that are accessible to people and blend into the natural setting.
- (11) Uses visitor satisfaction to help define and evaluate programs.

**Policy on Maintaining
Biological Integrity,
Diversity, and
Environmental Health**

This policy (601 FW 3) provides guidance on maintaining and restoring the biological integrity, diversity, and environmental health of the Refuge System, including the protection of a broad spectrum of fish, wildlife, and habitat resources in refuge ecosystems. It provides refuge managers with a process for evaluating the best management direction to prevent the additional degradation of environmental conditions and restore lost or severely degraded components of the environment. It also provides guidelines for dealing with external threats to the biological integrity, diversity, and environmental health of a refuge and its ecosystem.

Other Mandates

Although Service and Refuge System policy and the purpose(s) of each refuge provide the foundation for its management, other Federal laws, executive orders, treaties, interstate compacts, and regulations on conserving and protecting natural and cultural resources also affect how the Service manages refuges. The "Digest of Federal Resource Laws of Interest to the U.S. Fish and Wildlife Service" describes many of them at: <http://www.fws.gov/laws/Lawsdigest.html> (accessed January 2012).

Of particular note are the Federal laws that require the Service to identify and preserve its important historic structures, archaeological sites, and artifacts. NEPA mandates our consideration of cultural resources in planning Federal actions. The Refuge Improvement Act requires the CCP for each refuge to identify its archaeological and cultural values. Following is a highlight of some cultural and historic resource protection laws which relate to the development of CCPs.

The Archaeological Resources Protection Act (16 U.S.C. 470aa–470ll; P.L. 96–95) approved October 31, 1979 (93 Stat. 721), largely supplanted the resource protection provisions of the Antiquities Act of 1906 for archaeological items. The Archaeological Resources Protection Act establishes detailed requirements for issuance of permits for any excavation or removal of archaeological resources from Federal or Native American lands. It also establishes civil and criminal penalties for the unauthorized excavation, removal, or damage of those resources; for any trafficking in those removed from Federal or Native American land in violation of any provision of Federal law; and for interstate and foreign commerce

in such resources acquired, transported, or received in violation of any state or local law.

The Archeological and Historic Preservation Act (16 U.S.C. 469–469c; P.L. 86–523), approved June 27, 1960 (74 Stat. 220), as amended by P.L. 93–291, approved May 24, 1974 (88 Stat. 174), carries out the policy established by the Historic Sites, Buildings and Antiquities Act (see below). It directs Federal agencies to notify the Secretary of the Interior whenever they find that a Federal or federally assisted licensed or permitted project may cause the loss or destruction of significant scientific, prehistoric, or archaeological data. The act authorizes the use of appropriated, donated, or transferred funds for the recovery, protection, and preservation of that data.

The Historic Sites, Buildings and Antiquities Act (Historic Sites Act) (16 U.S.C. 461–462, 464–467; 49 Stat. 666) of August 21, 1935, as amended by P.L. 89–249, approved October 9, 1965 (79 Stat. 971), declares it a national policy to preserve historic sites and objects of national significance, including those located on refuges. It provides procedures for designating, acquiring, administering, and protecting them. Among other things, National Historic and Natural Landmarks are designated under the authority of this act.

The National Historic Preservation Act of 1966 (16 U.S.C. 470–470b, 470c–470n), P.L. 89–665, approved October 15, 1966 (80 Stat. 915), and repeatedly amended, provides for the preservation of significant historical features (buildings, objects, and sites) through a grant-in-aid program to the states. It establishes a National Register of Historic Places and a program of matching grants under the existing National Trust for Historic Preservation (16 U.S.C. 468–468d). This act establishes an Advisory Council on Historic Preservation, which became a permanent, independent agency under P.L. 94–422, approved September 28, 1976 (90 Stat. 1319). The act also created the Historic Preservation Fund. It directs Federal agencies to take into account the effects of their actions on items or sites listed or eligible for listing on the National Register of Historic Places.

The Service also has a mandate to care for museum properties it owns in the public trust. The most common are archaeological, zoological, and botanical collections, and historical photographs, objects, and art. Each refuge maintains an inventory of its museum property. Our museum property coordinator in Hadley, Massachusetts, guides the refuges in caring for that property, and helps us comply with the Native American Grave Protection and Repatriation Act (P.L. 101-601) and Federal regulations governing Federal archaeological collections. This program ensures that those collections will remain available to the public for learning and research.

Other Federal resource laws are also important to highlight as they are integral to developing a CCP. The Wilderness Act of 1964 (16 U.S.C. 1131–1136; P.L. 88–577) establishes the National Wilderness Preservation System that is composed of federally owned areas designated by Congress as wilderness areas. The act directs each agency administering designated wilderness to preserve the wilderness character of areas within the National Wilderness Preservation System, and to administer the National Wilderness Preservation System for the use and enjoyment of the American people in a way that will leave those areas unimpaired for future use and enjoyment as wilderness. The act also directs the Secretary of the Interior to review every roadless area of 5,000 acres or more and every roadless island (regardless of size) within the Refuge System and National Park System for inclusion in the National Wilderness Preservation System. Service planning policy requires that the Service evaluate the potential for wilderness on refuge lands, as appropriate, during the CCP planning process.

We include the Wilderness Review for John Heinz NWR as appendix F to the CCP.

The Wild and Scenic Rivers Act of 1968 (P.L. 90-542; 16 U.S.C. 1271 *et seq.*), as amended, selects certain rivers of the nation possessing remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values; preserves them in a free-flowing condition; and protects their local environments. Service planning policy requires that the Service evaluate the potential for wild and scenic rivers designation on refuge lands, as appropriate, during the CCP planning process. We include the Wild and Scenic Rivers Review for John Heinz NWR as appendix G to this CCP.

1.4 Refuge Establishing Purposes

John Heinz NWR was established in 1972, under special legislation, for the following purpose:

- “Preserving, restoring, and developing the natural area known as Tinicum Marsh....a wildlife interpretative center for the purpose of promoting environmental education, and to afford visitors an opportunity for the study of wildlife in its natural habitat.” (86 Stat. 891, dated June 30, 1972).

Some additional refuge lands were acquired under the following authorities:

- To be of “particular value in carrying out the national migratory bird management program.” 16 U.S.C. §667b (An Act Authorizing the Transfer of Certain Real Property for Wildlife).
- “Development, advancement, management, conservation, and protection of fish and wildlife resources...(16 U.S.C. §742f (a)(4))...for the benefit of the United States Fish and Wildlife Service, in performing its activities and services....” 16 U.S.C. §742f(b)(1) (Fish and Wildlife Act of 1956).
- “[F]or use as an inviolate sanctuary, or for any other management purpose, for migratory birds....” 16 U.S.C. §715d (Migratory Bird Conservation Act).

1.5 Conservation Plans and Initiatives Guiding the Proposed Action

Important guidance for habitat management and visitor service management at John Heinz NWR has already been provided by a series of refuge-specific, State, regional, and national plans and their priorities.

Regional and National Plans and Initiatives

Refuge System Visioning: Fulfilling the Promise, Conserving the Future

The 1999 report, “Fulfilling the Promise, The National Wildlife Refuge System: Visions for Wildlife, Habitat, People and Leadership” (USFWS 1999), was the culmination of a year-long process by teams of Service employees to create a Refuge System vision. This report was a result of the first-ever Refuge System Conference held in Keystone, Colorado, in October 1998. It was attended by every refuge manager in the country, other Service employees, and scores of conservation organizations. The report contains 42 recommendations organized under 3 vision statements relating to wildlife and habitat, people, and leadership. We have often looked to these recommendations while writing this CCP. For example, the 1999 report recommends forging new alliances through citizen and community partnerships, and strengthening partnerships with the business community. One of the goals in our CCP is devoted to the development of community partnerships, while several of our strategies focus on forging new partnerships or strengthening existing ones.

The Refuge System’s “Conserving the Future” conference was convened in July 2011 to renew and update the 1999 vision. It began with a draft vision document. Over the course of the conference, the Service collected both online and in-person

feedback which was used to revise and finalize the draft vision. The Service finalized the “Conserving the Future” vision document in October 2011 (USFWS 2011). The document has 20 recommendations, including one focusing on urban refuges. Currently, implementation teams are developing strategies to help us accomplish the vision. We will incorporate implementation strategies for this recommendation and the others, as appropriate, in our step-down plans and refuge programs.

North Atlantic Landscape Conservation Cooperative Operations Plan (USFWS 2009a)

The Service is developing a coordinated network of landscape conservation cooperatives across the U.S. to address major environmental and human-related factors that limit fish and wildlife populations at the broadest of scales, including developing adaptation strategies in response to climate change. John Heinz NWR is located in the North Atlantic Landscape Conservation Cooperative, which is currently using the principles of strategic habitat conservation to develop and communicate landscape-scale scientific information to shape conservation across the northeastern U.S. The North Atlantic Landscape Conservation Cooperative’s Operations Plan outlines the regional threats to conservation, priority species, and habitats, as well as active regional partnerships.

Mid-Atlantic Coast Bird Conservation Region Implementation Plan (USFWS 2008a)

The implementation plan for the Mid-Atlantic Coast Bird Conservation Region combines regional plans, assessments, and research completed over the past two decades to develop continental-based bird conservation efforts. John Heinz NWR is located within the narrow portion of the Mid-Atlantic Coastal Plain in southeastern Pennsylvania. As such, this coastal zone is unique to the State of Pennsylvania and thus, many of the priority species listed for Bird Conservation Region 30 are also species of concern listed within the Pennsylvania Wildlife Action Plan. These rankings and the recommendations of the inventory have been considered along with other local and regional conservation priorities.

A Natural Heritage Inventory of Philadelphia County, Pennsylvania (PNHP 2008)

The Philadelphia County Natural Heritage Inventory was compiled by the Pennsylvania Department of Conservation and Natural Resource’s (PADCNR) Natural Heritage Program and the Western Pennsylvania Conservancy. It provides information on the general locations of rare, threatened, and endangered species and the highest quality natural areas in the county, and identifies areas in need of restoration. The Natural Heritage Program also provides State conservation rankings for each species of conservation concern in Pennsylvania. These rankings and the recommendations of the inventory have been considered along with other local and regional conservation priorities.

Pennsylvania Wildlife Action Plan (PGC and PFBC 2008)

The Pennsylvania Wildlife Action plan was completed in 2005 and updated in 2008 by the Pennsylvania Game Commission (PGC) and Pennsylvania Fish and Boat Commission (PFBC) (PGC and PFBC 2008). While creating a strategic focus for State fish and wildlife management agencies, this plan attempts to provide a Statewide perspective on conservation by presenting geographic, species, and habitat priorities. Considering John Heinz NWR’s protection of habitats unique to the State of Pennsylvania, species of conservation priority were considered in development of the refuge’s resources of concern.

USFWS Migratory Bird Program Strategic Plan (USFWS 2004)

The Migratory Bird Program Strategic Plan provides direction for the Services’ migratory bird management over the next decade (2004 to 2014). The plan contains a vision and recommendations for the Refuge System’s place in

bird conservation. It defines strategies for the Service, including the Refuge System, to actively support bird conservation through monitoring, conservation, consultation, and recreation. The refuge's habitat management plan (HMP), to the extent practical, uses standard monitoring protocols, habitat assessment and management, and promotes nature-based recreation and education to forward the vision of the Migratory Bird Program Strategic Plan.

USFWS Birds of Conservation Concern (USFWS 2008b)

The USFWS Birds of Conservation Concern report identifies the migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent the Service's highest conservation priorities and draws attention to species in need of conservation action. The plan's geographic scope includes the U.S., including the island territories in the Pacific Ocean and Caribbean. Bird species considered for inclusion on lists in this report include nongame birds, gamebirds without hunting seasons, subsistence-hunted nongame birds in Alaska, and Endangered Species Act candidate, proposed endangered or threatened, and recently delisted species. Assessment scores are based on several factors, including population trends, threats, distribution, abundance, and area importance.

Wildlife Habitat in Pennsylvania, Past, Present, and Future (Goodrich et al. 2001)

Today, the PADCNr ranks coastal plain habitats as "impaired." The coastal plain region of Pennsylvania includes some of the last remaining habitats for certain wetland species in the State. The 2001 PADCNr report *Wildlife Habitat in Pennsylvania, Past, Present, and Future*, recommends that, where possible, wetlands along the Delaware River should be restored. The plan recommends urban forest management to provide habitat for some tolerant forest wildlife. The reduction of runoff into streams and wetlands is also noted as a top priority, along with restoration of natural communities in undeveloped areas.

Bird Conservation Plan for the Mid-Atlantic Coastal Plain (Physiographic Area 44) (PIF 1999)

Partners in Flight is a partnership of government agencies, private organizations, academic researchers, and private industry throughout North America focused on coordinating voluntary bird conservation efforts to benefit species at risk and their habitats. Bird conservation regions have been developed to guide management on a regional scale. Version 1.0 of the Mid-Atlantic Coastal Plain Bird Conservation Region Plan was completed in 1999. John Heinz NWR is located within this physiographic province and thus is considering the conservation priorities of this plan along with other conservation plans.

Delaware Estuary Comprehensive Conservation Management Plan (DEP 1996)

The Delaware Estuary is faced with continuing threats from toxic substances, habitat loss and fragmentation, and human development. To help address these threats, the Delaware Estuary Program worked with many partners to develop the Comprehensive Conservation and Management Plan for the Delaware Estuary (DEP 1996). The comprehensive conservation and management plan is a comprehensive document describing the existing conditions of the Delaware Estuary and providing seven action plans (land management, water use management, habitat and living resources, toxics, education and involvement, and monitoring) and an implementation plan. While the Delaware Estuary Program has since merged with the Partnership for the Delaware Estuary, this reorganized entity is still active and is now responsible for addressing the various actions identified in the comprehensive conservation and management plan. We used this plan as a reference in developing habitat management and land protection planning objectives.

Refuge-specific Plans

We consulted a number of other refuge-specific plans in either their draft or final format to help guide decision-making. These plans will also be maintained and updated as necessary to maintain accordance with the recommendations of the CCP.

John Heinz National Wildlife Refuge at Tinicum Habitat Management Plan (Appendix C)

The refuge's HMP (appendix C) proposes a long-term vision and specific guidance on managing the habitats for the identified resources of concern at John Heinz NWR. The plan provides direction for the next 15 years. Subsequent reviews every 5 years and use of adaptive management will assess and modify management activities as research, monitoring, and priorities require. This plan will be finalized upon final approval of the CCP.

White-tailed Deer Management Plan for John Heinz National Wildlife Refuge at Tinicum (D'Angelo 2012)

Refuge staff consulted with U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service, Wildlife Services to study the refuge's deer population and its impacts on refuge habitats, wildlife, and humans. The purpose of the deer management plan is to institute a biologically sound program to efficiently manage the deer population within a sustainable and healthy balance within the habitat and objectives of the refuge. This plan was finalized in conjunction with the final CCP.

Visitor Service Review (VanBeusichem et al. 2009)

A Service-based review team assessed the public use issues, opportunities, and facilities available at John Heinz NWR in preparation of the refuge's comprehensive conservation planning process and to develop recommendations to improve the quality of the refuge's visitor services program. The visitor services review recommendations are used as a stepping-off point for visitor services planning. We used its recommendations to help develop goals, objectives, and strategies for refuge visitor services planning.

Restoration Management Plan for the Lower Darby Creek with Recommendations for the John Heinz National Wildlife Refuge at Tinicum (Salas et al. 2006)

This restoration management plan was developed in 2006 by Delaware Riverkeeper Network under a Delaware Estuary Grant awarded to the Friends of the Heinz Refuge and funded by the National Fish and Wildlife Foundation. The purpose of this plan was to initiate an ecological restoration approach to habitat management at the refuge. This plan identified historic disturbances to the site, the ecological communities existing at the refuge, and provided recommendations for the restoration of a more natural ecological composition, structure, and function to these communities. The extensive field and Geographic Information System (GIS) data, along with historic records and information compiled as part of this plan, were used heavily in the development of the HMP.

Pennsylvania Important Bird Area #73: Phase I Conservation Plan (Cohen and Johnson 2004)

John Heinz NWR was designated as an important bird area by the National Audubon Society because of its critical location within the Atlantic Flyway and its complex of unique habitats. This plan identifies habitat-based site boundaries, describes the birds and wildlife habitat which occur on the site with special reference to the species for which the site was selected as an important bird area, identifies conservation issues and threats to the site, and provides recommendations for conservation actions. Its conservation recommendations are being considered with those of other refuge and regional plans.

Step-down Plans

The Service Manual's refuge planning policy (602 FW 4) identifies more than 25 step-down management plans that may be completed for each refuge. Those plans provide the details necessary to "step-down" general goals and objectives to specific strategies and implementation schedules. Some require annual revisions, while others are revised every 5 to 10 years. Some require additional NEPA analysis, public involvement, and compatibility determinations before they can be implemented. The following is a list of step-down plans that have already been completed for John Heinz NWR. Step-down plans that are currently in draft form or that will be started after CCP finalization are listed in chapter 4, section 4.2.15.

- Annual habitat work plan (most recently completed 2010, updated annually).
- Wildlife disease surveillance and contingency plan (completed 2006).
- Fire management plan (most recently completed 2006, updated annually).
- Hurricane action plan (most recently completed 2010, updated annually).
- Environmental management plan (most recently completed 2003, updated annually).
- Safety plan (most recently completed 2010, updated annually).

1.6 Refuge Vision

The planning team developed the following vision statement to provide a guiding philosophy and sense of purpose in the CCP.

John Heinz National Wildlife Refuge at Tinicum is a green respite nestled within the urban setting of the city of Philadelphia. Refuge lands are a thriving sanctuary teeming with a rich diversity of fish, wildlife, and plants native to the Delaware Estuary. Healthy and productive expanses of freshwater tidal marsh, open waters, mudflats, and forests support the hundreds of species that breed, rear their young, rest during migration, and call the refuge home year-round.

With partners' support, the refuge leads by example in the restoration and conservation of freshwater tidal marsh within the Delaware Estuary. Also, given its accessibility and visibility to over 35 million Americans living within a 2-hour drive, the refuge serves as a prominent ambassador of the National Wildlife Refuge System. Its high-quality programs promote natural and cultural resource stewardship, demonstrate the conservation of urban wildlife habitat, encourage compatible outdoor public use, and serve as a living classroom to connect people with nature and local history. Those who visit John Heinz National Wildlife Refuge are inspired to take action to improve the quality of life for themselves and those around them.

1.7 Refuge Goals

As we introduced earlier in this chapter, the planning team developed six goals (see section 1.2) after considering the vision statement, the purposes for establishing the refuge, the missions of the Service and the Refuge System, and the mandates, plans, and conservation initiatives noted above. These goals are intentionally broad, descriptive statements of purpose. They highlight elements that we will emphasize in the refuge's future management.